

WESTERN RINGTAIL POSSUMS AND YOUR PROPERTY

A GUIDE TO CONSERVE AND ENCOURAGE THEM ON YOUR PATCH



Inset Image: David Bettini





Photo credit: Boyd Wykes

Western Ringtail Possums

The Western Ringtail Possum is a nocturnal marsupial that is only found in South Western Australia. While once widespread from Perth to Albany, this species is now listed as **critically endangered** under State legislation (Wildlife Conservation Act 1950). It has been estimated that the remaining population size in the wild is less than 8,000 mature individuals, with a decreasing trend ¹. The Recent research ² predicts there is a 92% likelihood that they will be extinct within 20 years if action to protect populations and their habitat isn't enacted immediately.

Western Ringtail Possums have dark brown fur above with creamy white (or occasionally grey) fur underneath. Their most distinctive feature is a long slender tail that has a white tip and is a similar length to their body.

A Noongar name for this possum is ngwayir (pronounced “na-wa-ear”). Their scientific name '*Pseudocheirus occidentalis*' explains two different features of this species. *Pseudocheirus* translates to 'false hand' and refers to their forefeet having an excellent grasp for climbing. *Occidentalis* translates to 'western'.

¹ Woinarski J.C.Z; Burbidge A.A. and Harrison P.L. (2014). *The 2012 action plan for Australian mammals*. CSIRO publishing.

² Yokochi, K. (2015). *A major road and artificial waterway are barriers to the rapidly declining Western Ringtail Possum*. School of Animal Biology, University of Western Australia.

How do they differ from other possums in the south west?

The easiest way to distinguish the Western Ringtail Possum from Common Brushtail Possums (*Trichosurus vulpecula*) is by the tail and ears. While Ringtails have a slender, white tipped tail and small round ears, Common Brushtails have a bushy brush-like tail (can also have a white tip) and large ears. Western Ringtail possums are approximately 40cm in body length, around the size of a football, with an average weight of one kilogram; Common brushtail possums are larger, weighing up to 3.5 kilos.



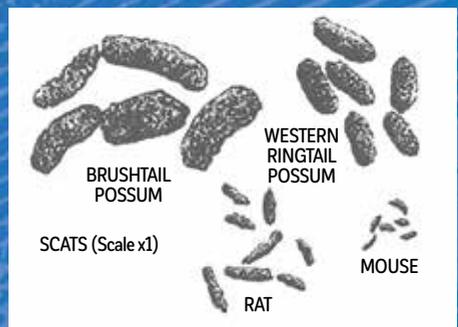
What other signs can help me identify if Western Ringtails visit my property?

Besides actually seeing Western Ringtails scurrying along your fence lines or in the garden at night, there are other tell tale signs to look out for. Check for their stick nests (called dreys) built in the canopy of trees and shrubs around your property. While they usually prefer Peppermints, they may build their dreys in any vegetation that offers protection from the elements and predators.



You may also come across their scats (droppings). Ringtail scats are small cylindrical pellets about 1cm long. You may find a collection of them scattered under a feeding tree; particularly easy to spot if the tree overhangs a paved area. They are quite different in size and shape to other possums, rats and mice. The good news is the scats do not have any odour and consist mostly of chewed up peppermint leaves.

SCAT GUIDE



Comparison of possum, mouse and rat scats ³

³ Modified from Bramwell E., Kemp C. and Orell P. (2005) Living with possums. Department of Environment and Conservation.

What is Western Ringtail Possum habitat?

The Western Ringtail Possum occurs in the highest densities in coastal zones, where Peppermint trees (*Agonis flexuosa*) are a dominant species. Smaller populations occur within Jarrah Marri vegetation, including areas in the Margaret River Region. Inland populations have been recorded in the Jarrah forests around Manjimup ⁴.

Western Ringtails sleep during the day in stick nests called dreys. They build their dreys in the canopy of Peppermint (and other) trees collecting twigs and leaves with their prehensile (able to grasp) tails. Western Ringtails are also known to nest in hollows of large old trees and in dense undergrowth that offers protection from predators. In urban areas they may move into roof spaces where there is an opening.

Ringtails are highly territorial. Their home range is between 0.3ha ⁵ in Peppermint dominant vegetation and up to 5ha in Jarrah forests. They may have several dreys which they move between, within their range. Their range is well defined but may overlap with other individuals ⁶.

Due to their highly territorial nature, ringtails do not migrate or disperse well outside of their territories and translocation efforts have been largely unsuccessful. Competition with resident ringtails and brushtails, unsuitable habitat and predation by feral cats and foxes limits the success of translocation attempts.

⁴ de Tores, P.J. (2000). Review of the distribution and conservation status of the Western Ringtail Possum, *Pseudocheirus occidentalis* (Thomas), and recommendations for management.

⁵ Jones, B.A.; How, R.A. and Kitchener, D.J. (1994b). A Field Study of *Pseudocheirus occidentalis* (Marsupialia: Petauridae). II. Population studies. *Wildlife Research* 21: 189-201.

⁶ Wayne, A. (2005). The ecology of the koomal (*Trichosurus vulpecula hypoleucus*) and ngwayir (*Pseudocheirus occidentalis*) in the jarrah forests of south-western Australia. (Doctoral dissertation) Australian National University, Canberra.

How well are Western Ringtail Possums adapting to changing habitat?

One of the biggest threats to the survival of Western Ringtail Possums is the loss of habitat. As this species resides largely in the coastal zone, their habitat is under constant threat from clearing for residential development, road construction and fire management.

The good news is, Western Ringtail Possums appear to be adapting to living in more urbanised environments. Whether it's out of pure necessity or not, Ringtails are being reported⁷ as sleeping in a range of urban structures including roof spaces, PVC pipe, and under veranda eaves. They are often reported as eating a range of garden plants including roses and fruit trees. Successful breeding is also evident, with mothers carrying young or whole family groups sighted transversing urban backyards across most urban areas in the region including Cowaramup, Gracetown, Prevelly, Margaret River and Augusta.

While strongly territorial, Ringtail possums are relatively gentle by nature. They move reasonably slowly, can be predator-naive and are generally not as feisty as Common Brushtails. These characteristics can make them more vulnerable to attack, particularly on properties with domestic cats and dogs.



⁷ Pers comm. GeoCatch, 2017.

Private property and Western Ringtail Possums

Whether you live on a small urban block, a bush block out of town or beachside, you can play an important role in the long term survival of this species. Private properties can provide trees for nesting and feeding and also water during the heat of summer. There's something special about being able to provide refuge for a critically endangered marsupial.



What you can do on your URBAN block to protect Ringtails?

- Keep cats and dogs inside at night or dogs on a leash away from fence lines (which can become possum highways)
- Provide a water source in summer
See page 12 for ideas
- Retain mature peppermint trees
- Plant native species along fence lines and road verges
See page 9-11 for suitable species
- Keep lids on BBQs - many possums get burnt feet in summer from accidentally jumping on hot plates after the lights go out.

Take extra care with rodent baits on all properties

If you suspect rats or mice in the roof, check for scats (refer to scat guide on page 3) to ensure that it's rodents and not Ringtails or other possums. It's a good idea to always place rodent baits inside a container with a small (rodent size) hole cut in one side, so non-target species such as possums cannot access the bait.

What you can do on your BUSH BLOCK or LARGER PROPERTY to help

Natural habitat for Western Ringtails is precious and it is easier to protect than replace native bushland. Here's some things you can do to help protect Western Ringtail habitat on larger properties:

- Protect mature peppermints, marri and understorey as important feeding and nesting habitat. The dense foliage and tree hollows are critical for nesting.
- Protect and conserve areas of Peppermint bushland or known habitat areas from high intensity fire and removal of vegetation
- Undertake fox and feral cat control
- Keep domestic pets inside or confined away from habitat trees at night
- Revegetate with local species, including a range of understory plants beneath paddock/single trees. See species list on page 9-10 for suitable plants.
- Plant more Peppermints or other suitable trees where gaps exist between mature trees to create linkages and prevent the need for Ringtails to come to the ground
- If undertaking controlled burns, ensure they are small scale with low scorch height. Mosaic burning is preferable to avoid creating uniform habitat with plants in early stages of succession.

These suggestions would also apply in general for bushland reserves and national parks to protect habitat where Ringtails have been recorded.



Photo: B. Brown

We can all grow plants that encourage Western Ringtail Possums

Regardless of whether you are on 20 acres or a small town block, there are suitable plants you can grow to provide food and shelter for Western Ringtail Possums.

Western Ringtail Possums predominantly feed on young leaves, shoots and flowers of plants in the Myrtaceae (myrtle) family. In many areas the most important is the WA peppermint (*Agonis flexuosa*), but other favoured species include swamp peppermint, eucalypts and teatrees. Their diet also includes wattles, especially *Acacia saligna*, which often flourishes in peppermint woodlands. They also eat the flowers of other plants including grevilleas⁸.

Patches and hedges of dense, tall shrubs of any species can provide suitable cover for Western Ringtails to build their day-time shelters of twigs and leaves, known as dreys. Western Ringtails will also take refuge in tree hollows. Retaining mature trees with hollows as 'habitat trees' is a priority for householders who enjoy sharing their gardens with our possums and other hollow-dependent wildlife.

When growing plants to support Western Ringtails in gardens, tall shrubs in hedges and along fence-lines allow possums to travel without coming to ground where they are more vulnerable to cats and dogs. Capping along fences and even rope 'bridges' can create a safer environment, especially where a barking, jumping dog can frighten a possum into falling from a narrow, low support.

On larger properties, revegetation to encourage possums should include areas of ground-cover such as *Lepidosperma* (sword sedge). This provides cover if travelling on the ground and most importantly as summer heat-waves increase in frequency, cool refuge when dreys and hollows higher up become too hot. Understorey plants also provide habitat for other wildlife including birds, lizards, frogs and quenda (bandicoot).

Even though our Western Ringtail Possums use some non-local plant species for food and shelter (such as NZ Christmas Bush, Lillypilly, cultivar grevilleas and bottlebrushes), it's best to grow local species for the multitude of benefits they provide our local fauna, starting with the insects on which so much other wildlife depends. Local species also usually establish better to their natural soil and climatic conditions and require minimal water and maintenance.

HEIGHTS AND A DESCRIPTION HAVE BEEN INCLUDED FOR THE LOCAL SPECIES LISTED ON PAGES 9-11 TO HELP YOU DETERMINE SUITABILITY AT YOUR PLACE, EVEN IF YOU ONLY HAVE A SMALL AREA.

⁸ Possum Centre (2017). *Planting along fence lines for Western Ringtail Possums*. Unpublished report. Possum Centre, WA.

The Possum Centre (www.possumcentre.com.au) has been compiling information and anecdotal evidence on vegetation that is favoured for Western Ringtail food and habitat. Assistance has been provided from the Department of Biodiversity, Conservation and Attractions with input from Ron Glencross (Dunsborough Coast and Landcare) and Geographe Landcare Nursery. This information has been generously shared in the species lists provided. Plant images courtesy of Richard Clark.

TREES

| | Flowering time/colour | Soil | Height | Description |
|---|------------------------------|----------------------|--------|--|
| W.A. Golden Wattle (<i>Acacia saligna</i>) | March/May Yellow | Various | 2 – 4m | Local. This species can grow very large and is more suitable for large properties. A high quality food source for adults. Fast growing and short-lived (10-15 years). Prefers sunny aspect. Responds well to pruning and new shoots are favoured. |
| W.A. Peppermint (<i>Agonis Flexuosa</i>) | Oct/Dec White | Sand/gravel | 6-8 m. | Local. A primary western ringtail food and tree used for drey building (nests). Plant at least a metre from fences, walls and other plants. You can maximise number of trees by 'clumping', i.e. planting 3 or more trees about 1.5m apart. Keep clear of power lines. |
| Eucalypts & Marri <i>Eucalyptus rudis</i> (Flooded gum), <i>Marginata</i> (Jarrah), Patens (Blackbutt), <i>Corymbia Calophylla</i> (Marri) | Variety specific | Various | 5-7 m | Local. Check with your local native nursery for varieties that suit your property. All possum friendly as provide height from domestic predators and can offer canopy connectivity if grown near other plant species. New growth and flowers are food in most varieties. |
| Melaleucas <i>Melaleuca viminea</i> or <i>Melaleuca huegellii</i> | Jul/Nov Cream/White | Sand/clay | 2-5 m | Local. Suitable for smaller areas. High density. Slow growing. Edible flowers, protection and drey building. Tolerates shade. |
| Cape Leeuwin Wattle or Albizzia (<i>Paraserianthes lophantha</i>) | June/Sept Greenish yellow | Sand/ Sandy loams | 5 m | Local. Attractive, fast growing tree that prefers wet soils. Mixes well with tropical thyme or water gardens. Flowers may be attractive to Western Ringtails. Short lived (5-10 yr). Best combined with Peppermints and inter-planted with shrubs along fence lines and in gardens. |



SHRUBS

| | Flowering time/colour | Soil | Height | Description |
|--|---------------------------------|--------------------------|----------|--|
| Dwarf willow peppermint (<i>Agonis flexuosa nana</i>) | Evergreen foliage plant | Sand | 1-3m | Local Cultivar. Great as a hedge or pruned as a small tree. Popular food source for young possums and habit provides shelter and protection from predators. Good option along fence lines and as understory. |
| Western coastal wattle (<i>Acacia cyclops</i>) | Jan/May Yellow | Sand/lime- stone/loam | 2m | Local. Dense shrub in full sun areas. Tolerates shade but growth will be less dense. Highly palatable for the possums – leaves and flowers. |
| Albany bottlebrush (<i>Callistemon glaucus</i>) | Aug/Dec Multi-colour choices | Various | 2m | WA Native. Wetlands tolerant. Great choice for hedging or screening. Responds well to light pruning after flowering which encourages bushy growth. The possums love the new growth, leaves and flowers. Fast growing. Good lifespan. |
| One-sided bottlebrush (<i>Calothamnus quadrifidus</i>) | Mar-Jul Red or yellow | Sand/ gravel/clay | 1.5-2.5m | WA Native. Bottlebrush - like flowers with pine - like grey green dense foliage. Allow to grow as high as possible to maximize accessibility for possums. |
| Basket bush <i>Spyridium globulosum</i> | July-Nov White | Various | 3m | Local. Compact shrub with dark green glossy leaves that are furry underneath. Masses of white, perfumed flowers. New growth and flowers attractive to possums. Lime and wind tolerant. Can tolerate full sun or full shade. Also bird attracting. |



CLIMBERS AND UNDERSTOREY

| | Flowering time/colour | Soil | Height | Description |
|---|------------------------|-----------------|----------------------------|---|
| Australian Bluebell (<i>Billardiera fusiformis</i>) | All year Blue | Various | Climber/ small shrub | Local. Delicate hanging flowers and glassy fruits that possums love. Twining shrub or climber. Fast growing. Grows better when more than one planted. Space well. Provides a cool, dense, protective space for animals and birds. |
| Old Man's Beard (<i>Clematis pubescens</i>) | Aug-Nov Cream/white | Various | Climber | Native. Woody climber. Very decorative. Popular in urban gardens. Provides dense shelter for possums along fence lines. |
| Native Wisteria (<i>Hardenbergia comptoniana</i>) | Aug-Nov Purple | Sand/ gravel | Climber | WA Native. As a climber, Hardenbergia can offer good habitat when grown thickly on a fence or shed where it offers a dark, protected place for Western Ringtails to sleep. |
| Coastal Sword Sedge (<i>Lepidosperma gladiatum</i>) | Jul - Feb Brown | Various | 1-2m | Local. A common understorey species in Peppermint woodlands and riparian zones. Thrives in gardens or on verges. Plant under peppermint trees and native shrubs. Restricts weed growth. Offers refuge opportunities in the heat of summer for Ringtails. |



Create a summer water source

While Western Ringtail Possums get the majority of the water they need from their leafy diet, they can become prone to heat stress in summer. Having access to additional water during hot periods will help keep them hydrated and healthy.

The hanging water bowl: try this!

You can easily build a water bowl using a pot plant drip tray and some lengths of chain or rope. A commercially made bird feeder may also do the trick.

Keep these things in mind when creating a summer water source for possums:

- Attach or hang the bowl in an elevated position so possums do not need to come to the ground for access to the water
- Locate it in shady spot to prevent it drying out quickly and getting slimy
- Top up the water daily during summer and flush it out regularly to keep it clean



Photo: B. Brown

Are Western Ringtail Possums nesting on my property?

It can be a real thrill to discover a nest in a tree on your property. But imagine if it was the nest of a critically endangered species! Yes, that's right, Ringtails build stick nests to sleep in during the daylight hours.



Photo: Becca Bolton

Creating a home-made drey is easy by joining two hanging baskets with cable ties and lining with coco fibre. Cut an entry/exit hole and install in a tall tree.

For more details visit www.woaw.org.au/wp-content/images/uploads/Nest-Box-Ringtail-Drey-DIY-Activity.jpg

A FASCINATING FACT!
WESTERN RINGTAILS CAN HAVE SEVERAL DREYS OR RESTING REFUGES WITHIN THEIR HOME RANGE⁹. THEY ALSO BUILD DIFFERENT TYPES OF DREYS INCLUDING ROUGH PLATFORMS TO MORE ELABORATE, SPHERICAL NESTS. DREYS ARE GENERALLY BUILT WHERE HOLLOWES ARE ABSENT¹⁰.



Photo: B. Brown

⁹ Jones, B.A.; How, R.A. and Kitchener, D.J. (1994b). A Field Study of *Pseudocheirus occidentalis* (Marsupialia: Petauridae). II. Population studies. *Wildlife Research* 21: 189-201.
¹⁰ de Tores, P.J.; Rosier, S.M. and Paine, G. (1998). Conserving the western ringtail possum. *Landscape* 13: 28-35.

Western Ringtails or other possums in your roof?

If possums have set up home in your roof and are keeping you awake at night, follow the steps below:

- Entry points will need to be blocked after dusk/or after you are sure they have exited. As it will be after dark, you can block off access with a temporary barrier nailed into place before securing it properly and permanently the next day
- Trim back any foliage overhanging buildings to keep them away from your roof
- Consider installing a nest box as alternative refuge site for the possum
- Visit the following link for more detailed instructions on ridding possums from your roof:
www.geocatch.asn.au/resource/western-ringtail-possum-faqs-2015/

Deterrants for “problem possums”

We all have a role to play in protecting Ringtail Possums on our properties; as a critically endangered species, they need our help. However, there may be parts of your garden or home that you'd like to keep off limits. Reasons may include excessive noise, damage or fouling by urine/scats. The following methods can be considered:

- **Correctly identify the animal** causing the problem - rats are often mistaken for possums. Check for scats, chewing (more likely rats), time of noise (possums sleep during the day) etc
- **Exclusion** - the use of “floppy fences” around garden beds, block off entry points to buildings
- **Scare tactics** - scaring is not usually effective for possums
- **Repellents** - anecdotally some people have claimed filling an old stocking with dog hair and hanging on areas/plants to be protected can be effective
Repellents that deter by taste, smell or feel can be found in hardware/garden stores but they are not known to be universally effective and need to be reapplied after rain
- **If all else fails....**buy ear plugs, share your garden generously and feel grateful that you are providing a refuge for an endangered species!

IMPORTANT!

TRAPPING AND REMOVING WESTERN RINGTAIL POSSUMS IS ILLEGAL. REMOVAL OF POSSUMS IS UNLIKELY TO SOLVE THE PROBLEM AS A NEW ANIMAL WILL OFTEN TAKE ITS PLACE.

If you continue to have problems with possums on your property contact the Department of Biodiversity, Conservation and Attractions for further advice or assistance.

Build a nest box

Nest boxes can be a great way to either encourage Ringtails on your property or to provide an alternative to them taking up residence in your roof.

Nest boxes are relatively easy to build, following the instructions provided in the instructions at the website below, and considering the following points:

- Nest boxes can be made from second-hand or new timber
- The timber should be 20-25mm thick for insulation and durability
- Do not use treated timber, toxic paints, chipboard or smelly glues
- A few small holes should be drilled in the base of the box to allow for drainage
- A hinged roof will allow easy removal of other animals that may invade the box (such as bees) and a potential escape access for the possum from predatory attack
- Hollow logs can also be used for possums by blocking one end
- Place boxes about 4m above ground level and secure tightly to the main trunk/fork
- You may wish to wrap rope or wire with hose to protect your tree where you attach nest box
- Orient the entry hole to the south or south-east away from the sun.

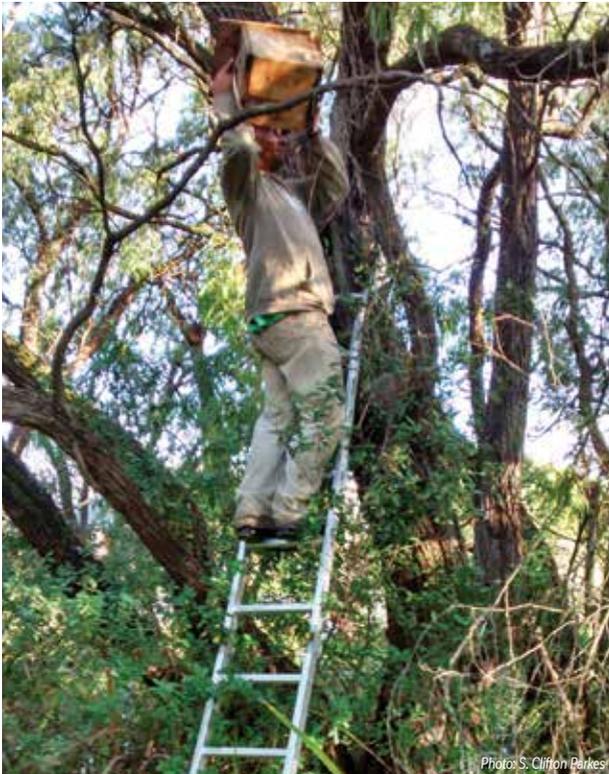


Photo: S. Clifton Parkes

For nest box designs visit the following websites:

www.possumcentre.com.au/Pages/nestbox_1.html

www.geocatch.asn.au/wp-content/uploads/2014/10/Final-WRP-brochure.pdf

Buying nest boxes

If you would prefer to purchase a ready-made box search on line or contact FAWNA (www.fawna.com.au) .

What to do with injured or orphaned Ringtails

If you find sick, injured or orphaned wildlife, follow these steps to help their survival:

- To protect yourself, use a towel or similar to place over the animal and gently, but securely pick it up
- Place it into a ventilated box, covered box or cover in a towel
- Keep the animal WARM, in the DARK in a QUIET place
- To reduce stress and shock, try to have as little contact with the animal as possible.
- Do not offer food or water unless advised to do so by a wildlife rehabilitator
- Call the WILDCARE helpline on 08 9474 9055. They hold a list of registered rehabilitators across WA
- Or take native animals to your local vet free of charge. They will assess the animal and contact a carer
- Always wash your hands thoroughly after handling wildlife
- Check the pouch of any dead marsupials for live babies. Also check the surrounding area for wandering young possums
- Remember your own safety as well as the safety of the animal.

IF YOU'VE FOUND
INJURED WILDLIFE,
CALL THE WILDCARE
HELPLINE ON
(08) 9474 9055



Photo: Becca Bolton

Reporting sightings

If you are lucky enough to have Western Ringtail Possums on your property, make sure you report all new sightings. This data is used to assist in environmental planning decisions and conservation management. Reporting sightings makes an important contribution to knowing where Ringtails are living in the Margaret River Region.

Please report sightings of Western Ringtail Possums at ala.org.au (Atlas of Living Australia). You will be asked to register and will then be able to place a marker on a map of your sighting location. Use the species name *Pseudocheirus occidentalis*. You may also like to download their sightings 'ALA App'. ALA share sighting data with Department of Biodiversity, Conservation and Attractions's (DBCA) NatureMap database.

Alternatively, report sightings to Department of Biodiversity, Conservation and Attractions using the form on their website:

www.dbca.wa.gov.au/plants-and-animals/monitoring/standards-andprotocols/140-standard-report-forms

Spreading the word

An easy way to help protect Western Ringtail Possums is to spread the word that they are critically endangered and that we need to look after them and their habitat. If you have Ringtails on your property make sure you grab a torch and show your friends next time they visit. Kids will especially enjoy a night stalk to learn about these special creatures.



NEXT TIME
YOU SPOT A RINGTAIL
POSSUM AT YOUR PLACE
GRAB A PHOTO &
SHARE ON
SOCIAL MEDIA

#westernringtailpossum
#criticallyendangered
#natureconservationmargaretriverregion

Other ways to help Western Ringtail Possums

DONATE

Visit www.natureconservation.org.au/donate to invest as little as \$10/month in the work Nature Conservation do to support conservation and research activities around Western Ringtail Possums. All donations are 100% tax deductible.

VOLUNTEER

Join the Nature Conservation Citizen Science volunteers to assist with Western Ringtail Possum surveys.

Email: info@natureconservation.org.au to find out more.

TAKE PART IN A POSSUM WATCH EVENT

If you want to have fun, explore the bush at night and learn more about Western Ringtails, join Nature Conservation on a possum night stalk or BioBlitz event. You can even help provide important data on sightings by taking part in the “Ringtail Tally” where residents are asked to keep an eye out for Ringtails over a four week period in their garden or local patch.

TAKE THE POSSUM PLEDGE

Commit to a few simple actions to help save this amazing species!

- ✓ Pets in at night
- ✓ Plant some possum friendly species in your garden
- ✓ Possum Watch and report your sightings
- ✓ Post your photos of Western Ringtail Possums - share your love for our possums

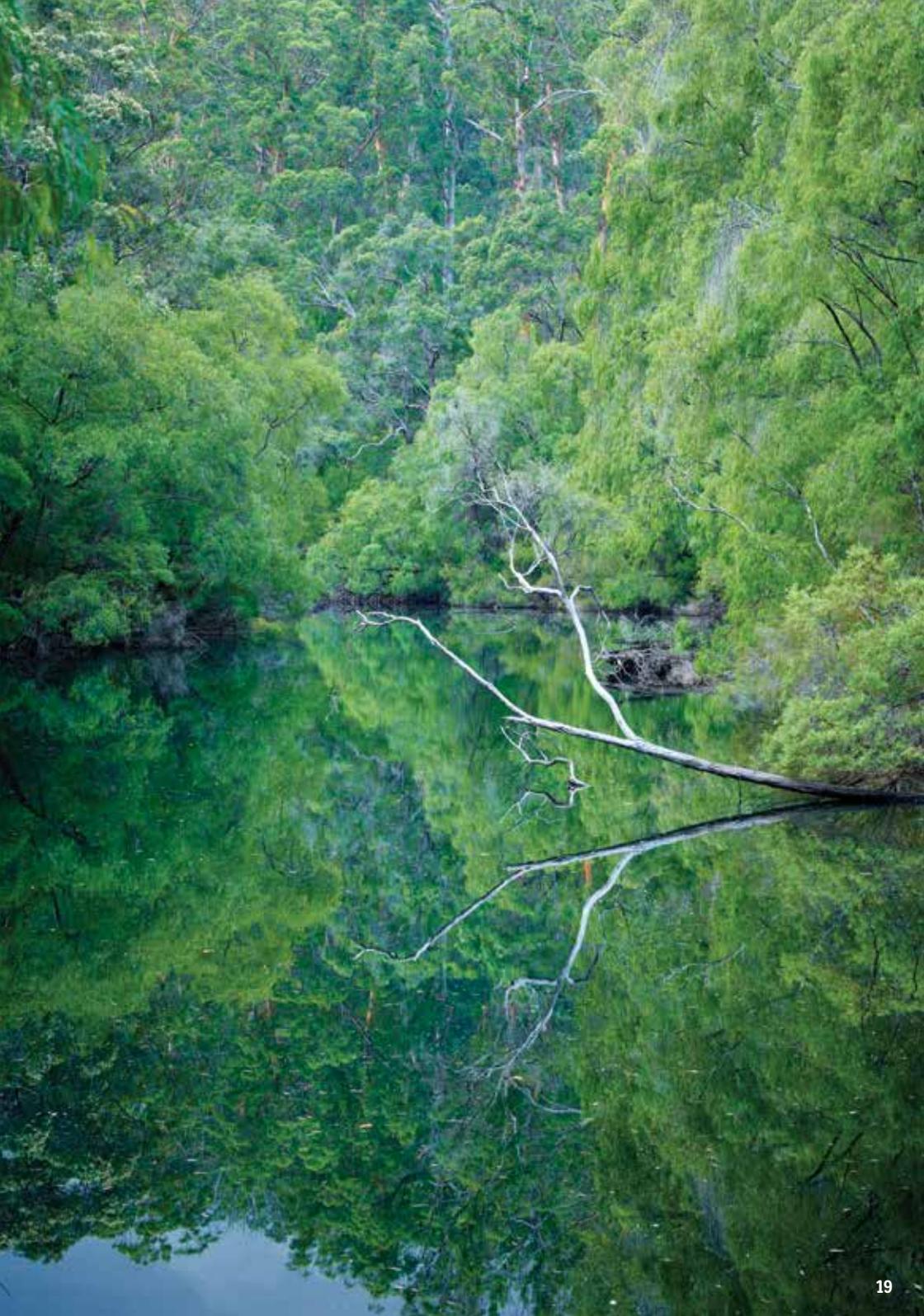




Photo: Becca Bolton



Photo: Becca Bolton

FIND OUT MORE

Please contact Nature Conservation Margaret River Region for more information on projects being undertaken to conserve Western Ringtail Possums.

FOLLOW US Like our Facebook Page and learn about our activities.

CONTACT US Community Resource Centre
33 Tunbridge Street,
Margaret River WA 6285
Phone: (08) 9757 2202
E: info@natureconservation.org.au

Visit our website www.natureconservation.org.au to find out how you can help.

ACKNOWLEDGEMENTS

This publication was prepared as part of a partnership between the Augusta Margaret River Shire and Nature Conservation Margaret River Region to conserve the Western Ringtail Possum in the Margaret River region.

Funding for the publication was generously provided from the Shire's Environmental Management Fund.

